

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An inverter device comprising:

an inverter circuit including

a bridge circuit connected between a positive electrode and a negative electrode of a direct-current power supply, the bridge circuit including

an upper arm unit including an upper-arm switching element and an upper arm diode connected in reverse-parallel to each other; and

a lower arm unit including a lower-arm switching element and a lower arm diode connected in reverse-parallel to each other, the lower arm unit being series connected with the upper arm unit;

an inverter driving unit including a high-withstand-voltage IC that drives switching elements in the upper arm unit and the lower-arm unit, the high-withstand-voltage IC having a first terminal that is a lower-arm-driving reference power supply terminal for supplying a reference voltage to the switching element in the lower arm unit and a second terminal that is an upper-arm-driving reference power supply terminal for supplying a high-voltage to the switching element in the upper arm unit; and

a clamp unit that clamps a potential difference between the first terminal and the second terminal, wherein the second terminal is not directly connected to the upper arm unit and the clamp unit is connected directly between the first terminal and the second terminal.

2. (original): The inverter device according to claim 1, wherein the inverter circuit is a single-phase inverter circuit.
3. (original): The inverter device according to claim 2, wherein the clamp unit is a clamp diode.
4. (previously presented): The inverter device according to claim 3, wherein a current rating of the clamp diode is smaller than a current rating of the lower arm diode.
5. (previously presented): The inverter device according to claim 3, wherein the clamp diode is provided outside of the high-withstand-voltage IC.
6. (original): The inverter device according to claim 1, wherein the inverter circuit is a three-phase inverter circuit.
7. (previously presented): The inverter device according to claim 6, wherein the clamp unit includes a plurality of clamp diodes each corresponding to each phase of the three-phase inverter circuit.

Claims 8-9. (canceled).

10. (previously presented): The inverter device according to claim 7, wherein each of the clamp diodes is connected between the first terminal and each of the second terminals.

11. (previously presented): The inverter device according to claim 7, wherein the high-withstand-voltage IC having a third terminal for supplying a high-voltage to the switching element in the lower arm unit, and fourth terminals each for supplying a high-voltage to a switching element in each phase, and the clamp diodes include

a first clamp diode connected between the first terminal and the third terminal; and
second clamp diodes each connected between the third terminal and each of the fourth terminals.

12. (canceled).

13. (new): The inverter device according to claim 1, wherein the high-withstand-voltage IC further includes a third terminal for supplying a reference voltage to the switching element in the upper arm unit.

14. (new): The inverter device according to claim 13, wherein the third terminal of the high-withstand-voltage IC is directly connected to the switching element in the upper arm unit.

15. (new): The inverter device according to claim 13, wherein the high-withstand-voltage IC further includes a fourth terminal for supplying a high-voltage to the switching element in the lower arm unit.

16. (new): The inverter device according to claim 13, wherein the second terminal and the

third terminal of the high-withstand-voltage IC are connected with a decoupling capacitor therebetween.

17. (new): The inverter device according to claim 15, wherein the first terminal and the fourth terminal of the high-withstand-voltage IC are connected with a decoupling capacitor therebetween.

18. (new): The inverter device according to claim 15, wherein the third terminal and the fourth terminal of the high-withstand-voltage IC are not directly connected to the clamp unit.